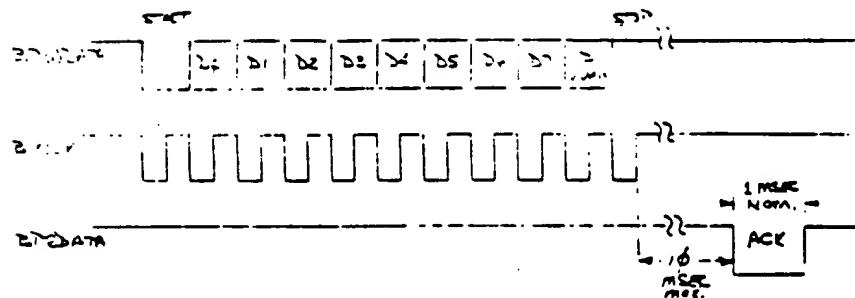


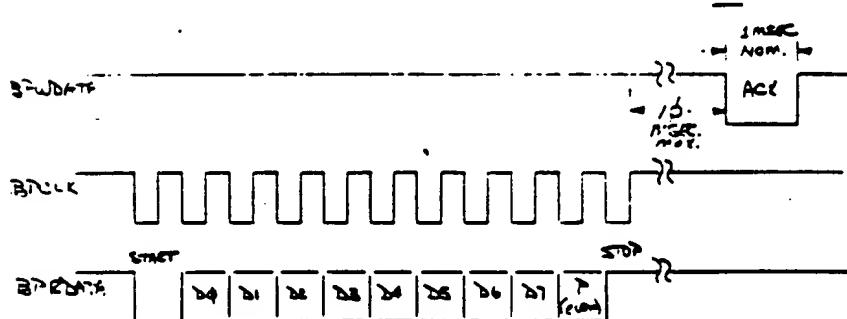
APPENDIX B

STEVEN E. KOENICK

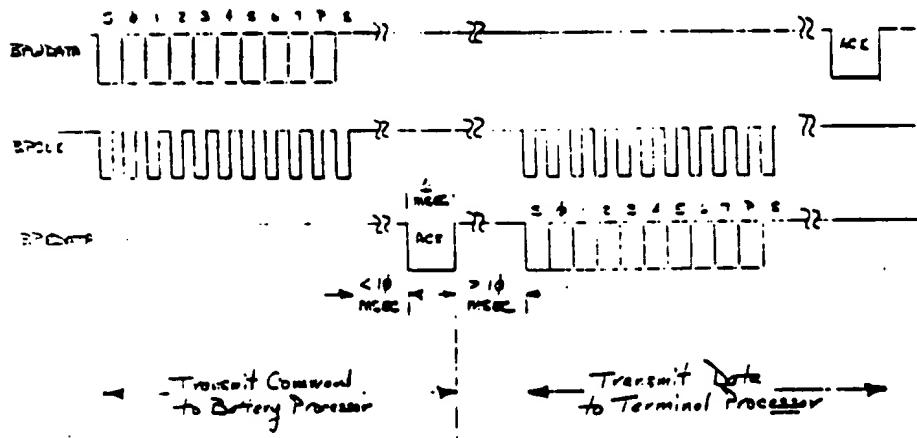
APPLICATION FOR PATENT "BATTERY
CONDITIONING SYSTEM HAVING
COMMUNICATION WITH BATTERY
PARAMETER MEASURY MEANS IN
CONJUNCTION WITH BATTERY
CONDITIONING" ATTY. DOCKET 5717-Y



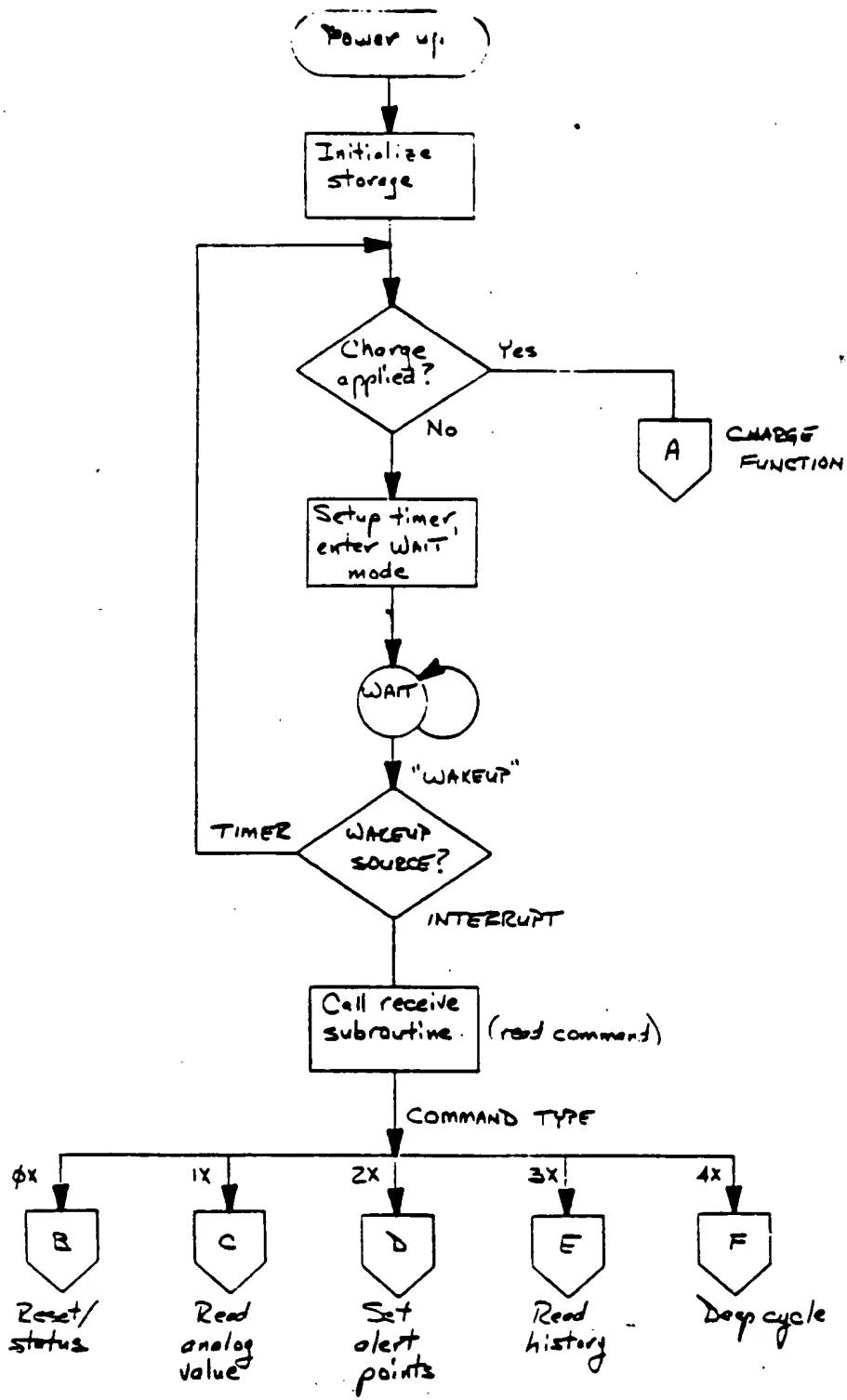
Terminal to Battery Processor Communication

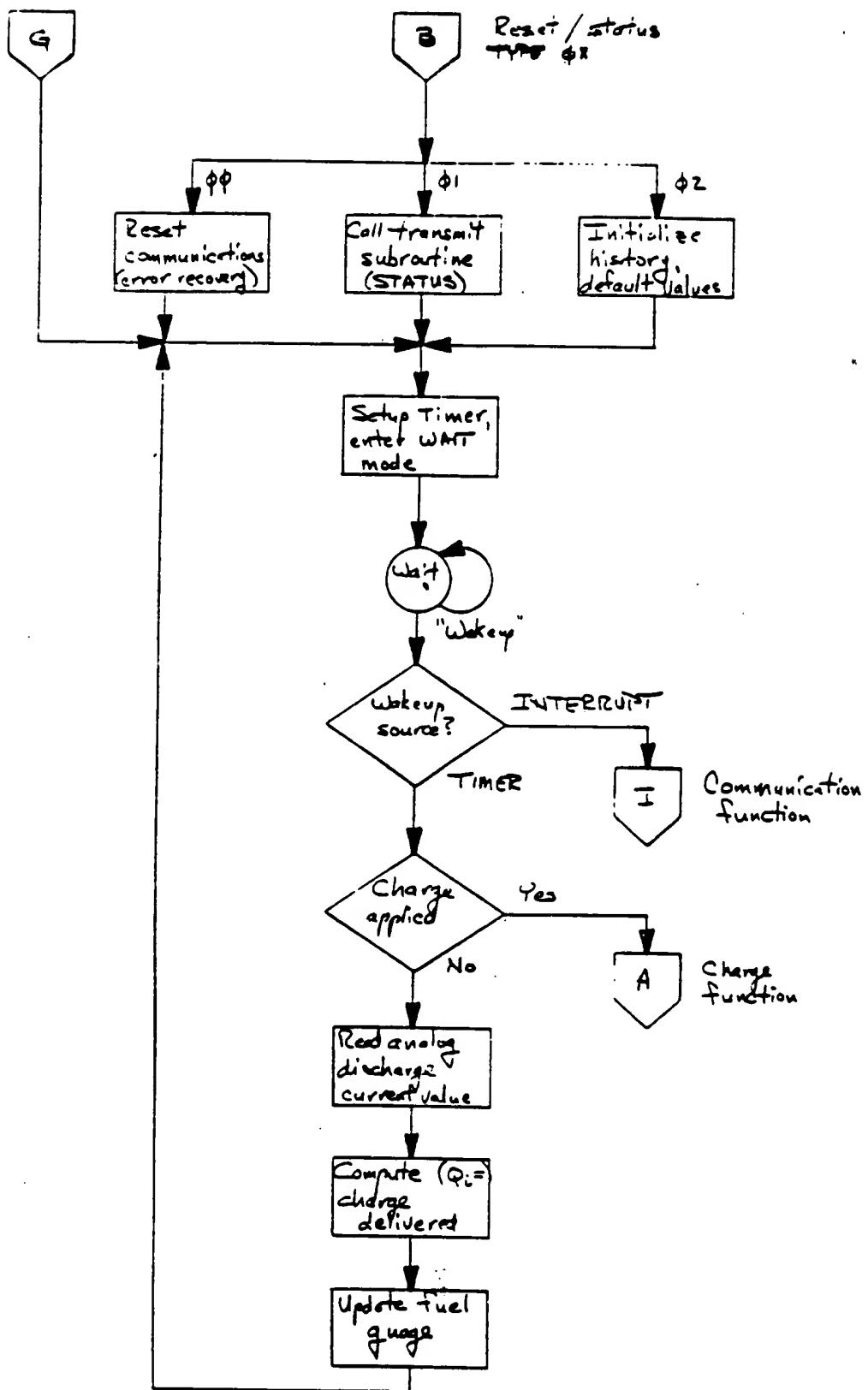


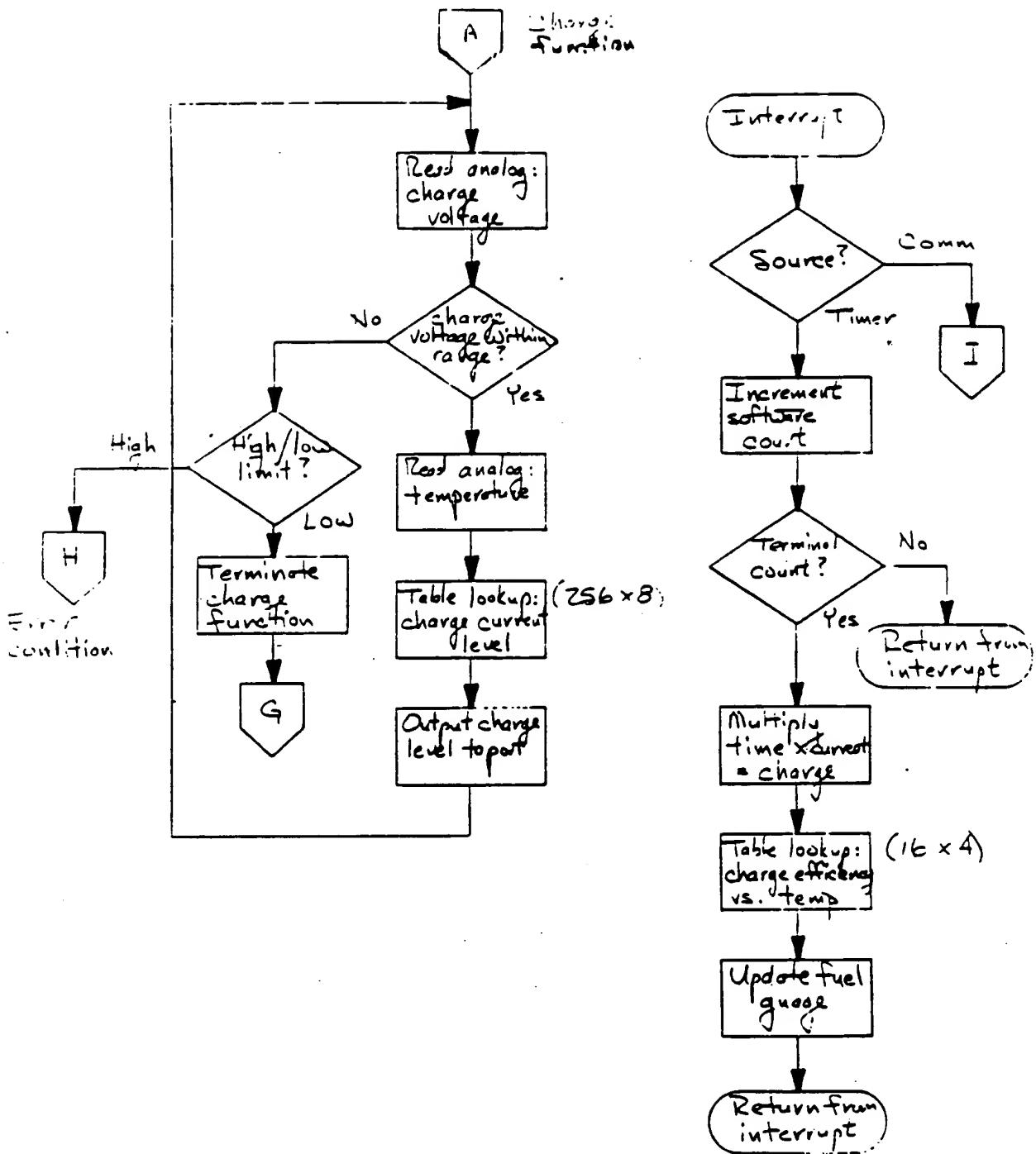
Battery Processor to Terminal Communication



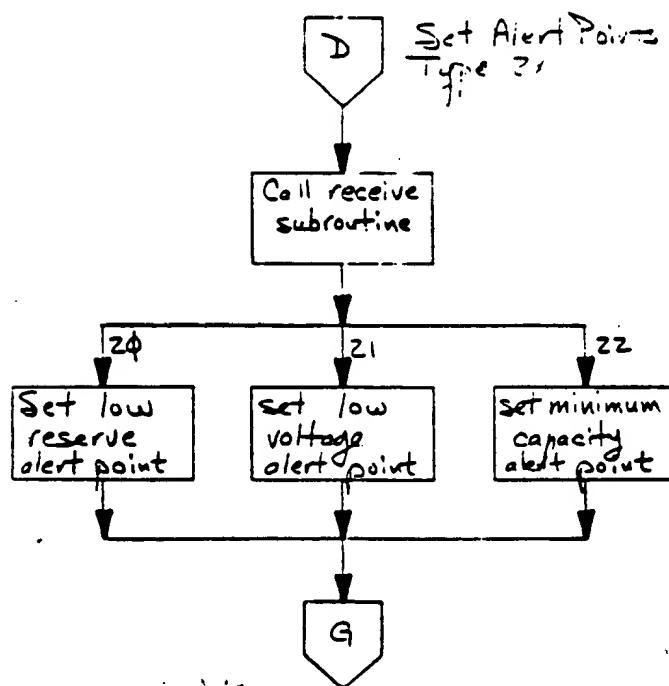
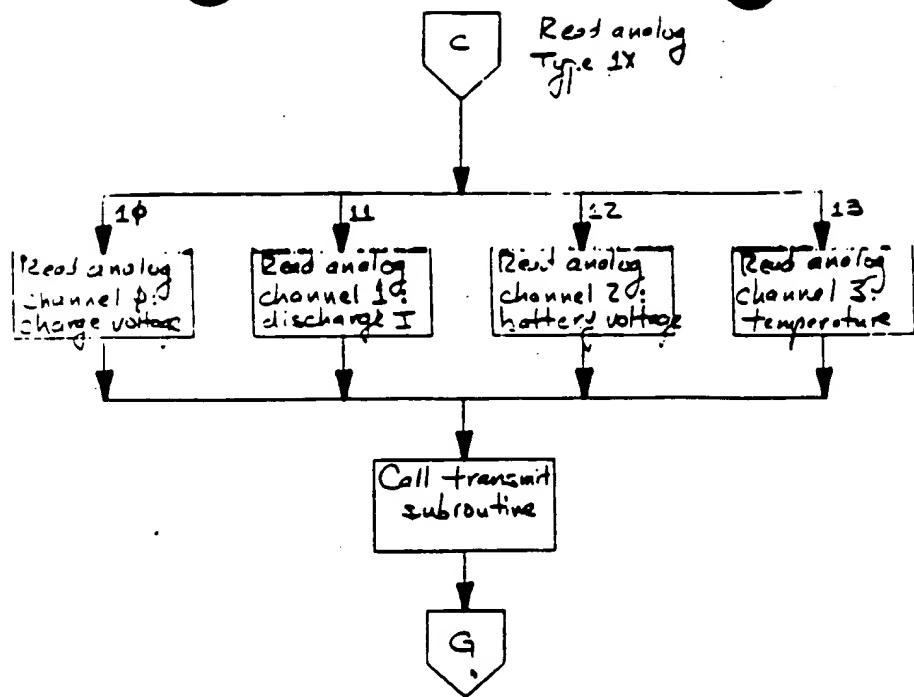
Command / Response Communication Protocol

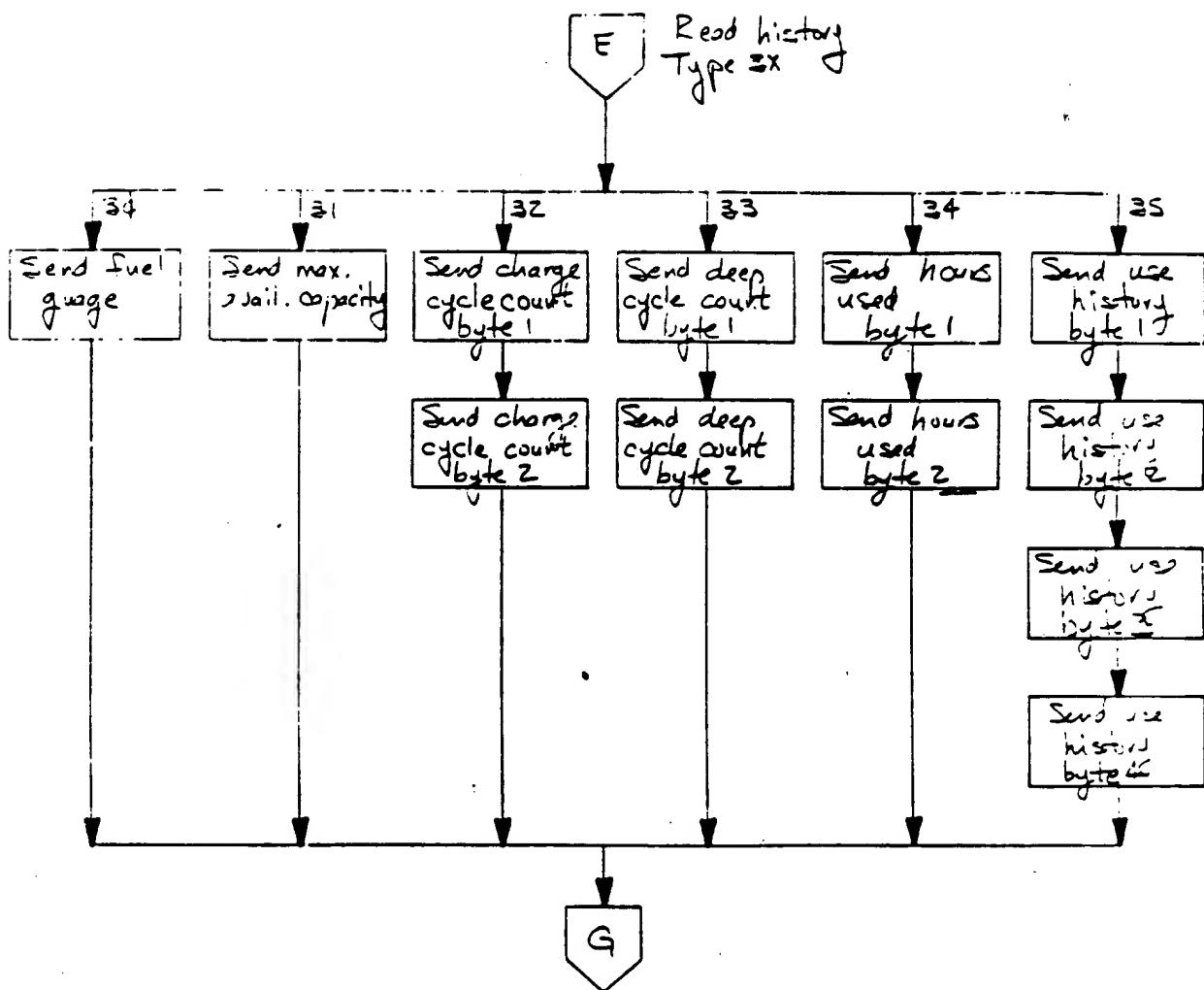


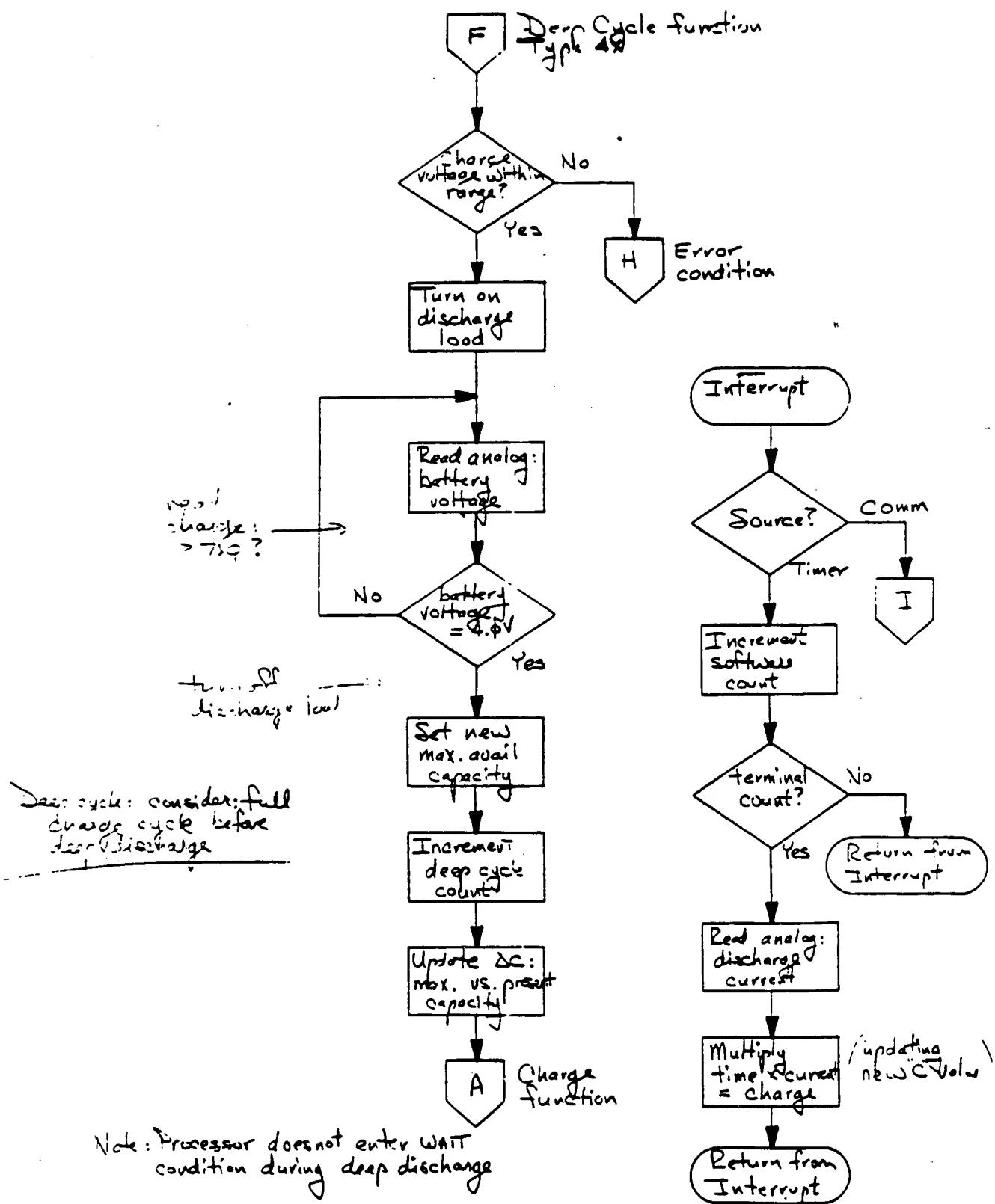


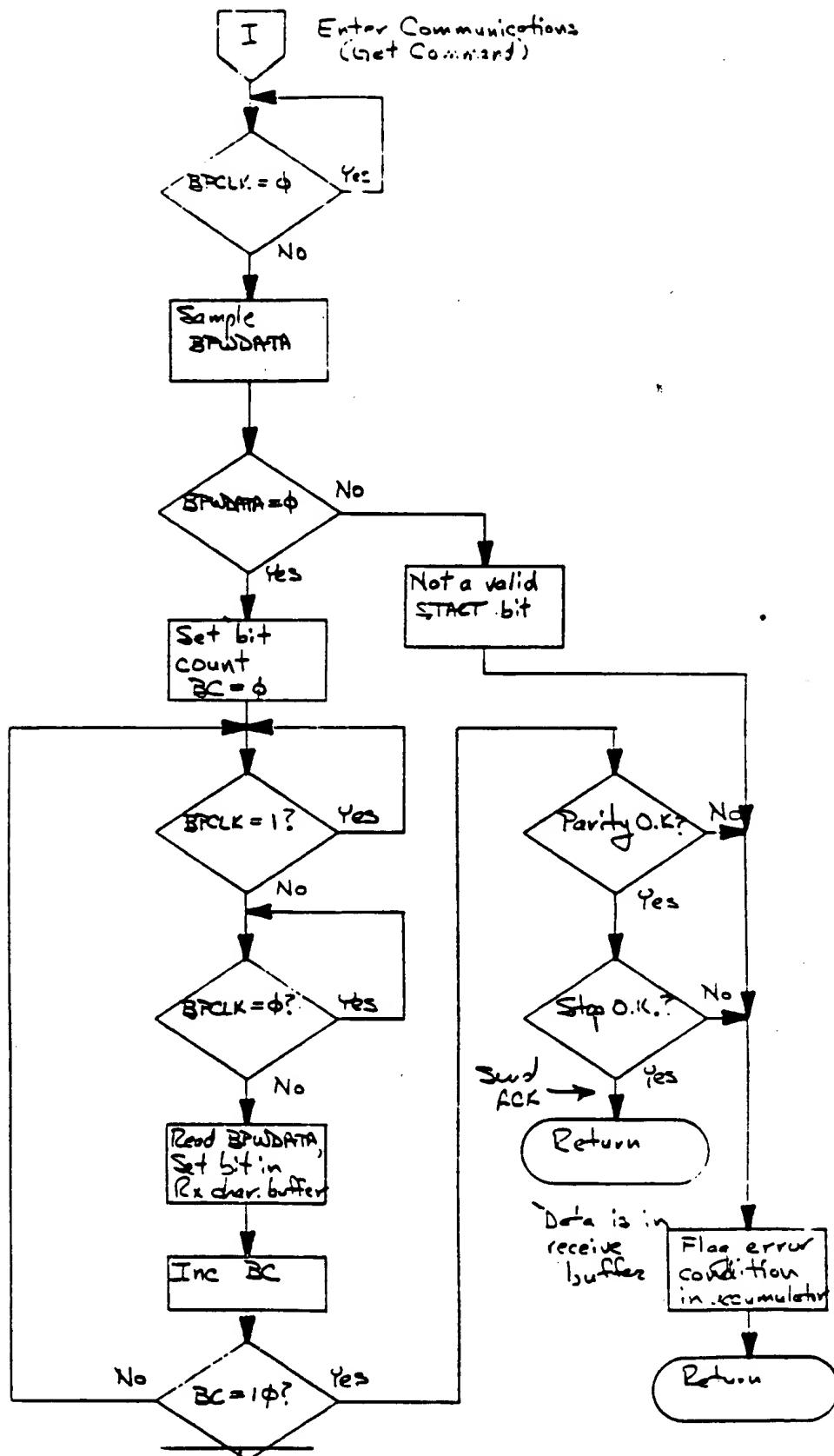


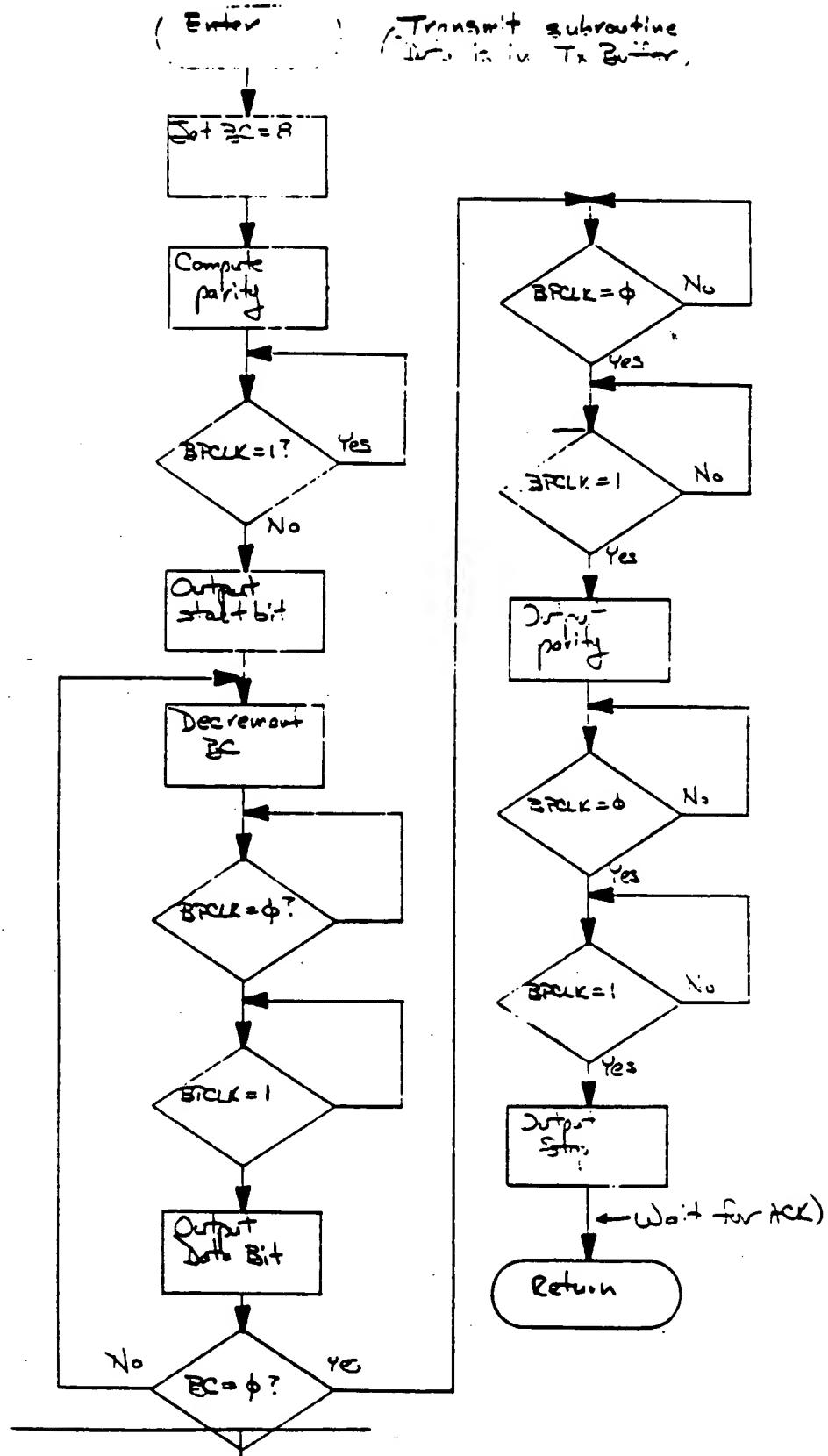
Note: Processor does not enter WAIT condition during charge.











Charge level look up table:

Input variables:

1. Temperature
2. Charge voltage
3. Fuel gauge

1. Temperature: table increments of $4^{\circ}\text{C} \times 16 \text{ steps} = 64^{\circ}\text{C}$, -14°C to $+50^{\circ}\text{C}$
temperatures below -14°C use -14°C value
temperatures above $+50^{\circ}\text{C}$ use $+50^{\circ}\text{C}$ value

2. Charge voltage: table increments of $1.28 \text{ volts} \times 8 \text{ steps} = 10.24 \text{ Volts}$
 $7.0 < V_{\text{CHG}} < 17.24 \text{ V.}$

voltages below 7 volts or above 17.24 volts will cause the charge level to be turned off and an error condition to be transmitted to the terminal processor

3. Fuel gauge: 4 steps:

0-25%

25-50%

50-75%

75-100%

TABLE OUTPUT: 4 bits, binary weighted
charge level = 32 ma/step
 $0 \leq I_{\text{CHG}} \leq 480 \text{ ma}$

TABLE SIZE:

$$16 \times 8 \times 2 = 256 \text{ Bytes}$$

① ② ③

Temp Chg voltage %C (4 nibbles)